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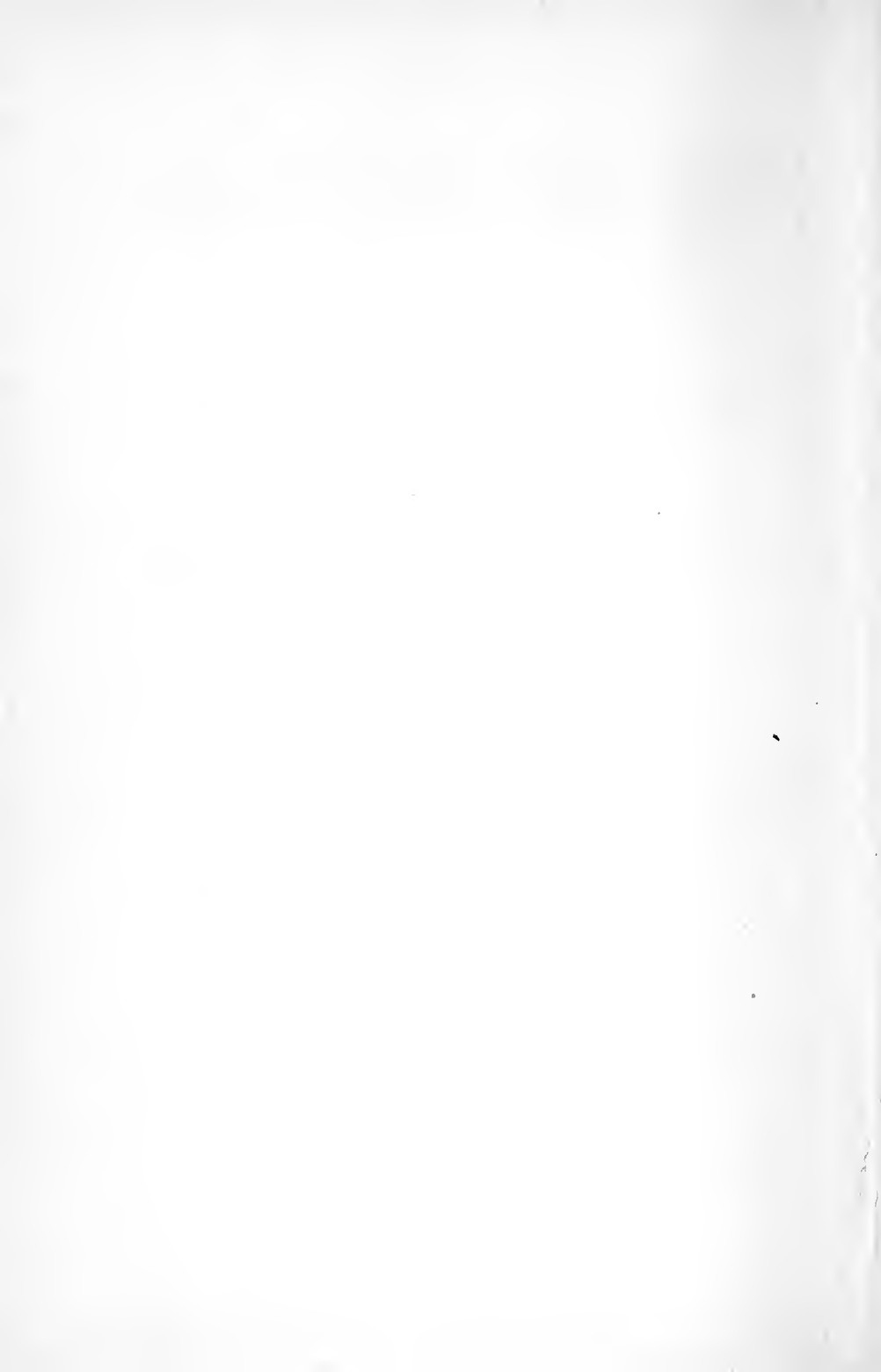
SUGGESTIONS
AS AIDS IN THE
CARE AND
PRESERVATION
OF THE
TEETH

PEASE.

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HINTS AND SUGGESTIONS

As Aids in the

Care and Preservation of the Teeth

and

THE RELATION OF THE DENTAL ORGANS TO OUR HEALTH.

BY

CHARLES G. PEASE, M. D., D. D. S.

Professor of Oral Surgery in the Metropolitan Post Graduate School of Medicine.
Late Lecturer on Materia Medica, Therapeutics and Pathology in the New York
Dental School. Consulting Oral Surgeon to the Five Points House of Industry
Hospital. Honorary Diplomate in Anaesthesia and Anaesthetics of the Phila.
Dental College and in General Surgery of the Medico-Chirurgical Col-
lege and Hospital of Philadelphia. Honorary Member of La Societe
Francaise d' Electrotherapie of Paris, France. Member of the
New York State Hom. Medical Society, New York County
Hom. Medical Society, American Institute of Homœopathy,
Academy of Pathological Science, Hahnemann Associ-
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I dedicate these pages of abridged instruction
to my comrades
of Company B, 7th Regiment
N. G. S. N. Y.

PREFACE.

Realizing that the average reader will not wade through matter that, to the unprofessional is dry and uninteresting, yet nevertheless important, the Author has endeavored, in as few words as possible, to give the instruction essential to success in the care of the teeth and surrounding tissues, of which the laity are largely in ignorance.

Prophylaxis is far preferable to remedial effort, and with the consciousness that Caries is the gateway not only to the destruction of the tooth, but to all the pains and aches concomitant with pulp irritation and congestion and pericementitis and alveolar abscess as a sequence of caries, we should avail ourselves of the knowledge that will not only aid us in preserving the integrity of the tooth, but the exercise of which will prevent suffering and save much expense, to say nothing of the comfort, the appearance and the maintenance of the health through the preservation of unbroken arches, superior and inferior (upper and lower) which, with proper occlusion affords perfect masticating powers. If the suggestions contained in these pages will awaken an interest in the reader, looking to their application and to a further and fuller study of the subjects, the work will not have failed in its object.

THE AUTHOR.

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THEORY OF CARIES.

The causes of disease presents the most interesting, and yet difficult lines of research in medical science.

The accepted theory of decay is, that of the action of an acid the product of micro-organisms during the phenomena of fermentation, the acid dissolving out the lime salts of the tooth at point of contact, exposing the organic matter, which, being acted upon by the ferment, continues the phenomena.

Alimentary particles allowed to remain about and between the teeth, subject to the conditions of heat, moisture and air; the three requisites for decomposition, often aided by vitiated fluids of the mouth, undergo fermentation and we have as a result the production of the acid referred to. There are many interesting experiments under this head.

Dr. Margitot of Paris, placed sound teeth into a solution of sugar, one part sugar to three of water, and allowed the solution to undergo the process of fermentation. At the end of two years the solution was found to be markedly acid, and the teeth completely decalcified. The teeth which had been protected by wax at all but one point were also decalcified, but at the point of exposure there was a localized cavity having all the characteristics of caries. In another solution of sugar, glucose was added and a few drops of creosote to prevent fermentation. The teeth were placed in the solution as before, and allowed to remain for two years. Fermentation was prevented, and none of the teeth showed any alteration whatever. Experiments were also made which consisted in a systematic observation of human teeth, prepared and mounted on natural roots, as pivot teeth. After some years' wear, in mouths in which caries was actively progressive in the remain-

ing natural teeth, the substituted teeth were affected with caries in the same manner as the natural organs. The cavities were of the same form and of the same appearance as those in the natural organs, and in the same position, and the contents gave the same acid reaction. There can be no question, therefore, that an agent is acting from without and is independent of the vitality of the tooth attacked; but soft teeth, teeth of poor quality, will yield more quickly than those of dense structure. In the young we find the new teeth more or less soft, due to the fact that there is still much protoplasm in their structure, calcification not being completed.

DISINTEGRATION OF TEETH IN EARLY MOTHERHOOD.

Remedy lies in a knowledge of the systemic and local forces at work during gestation, inimical to tooth structure* and the application of the indicated remedies.

Thorough cleanliness and an antacid mouth wash used frequently and thoroughly (three or four times daily,) together with systemic treatment, will do much to successfully bridge this period. It is a lamentable fact that destruction of teeth has been, and is now, permitted during this time through lack of knowledge.

The teeth become less resistant owing to a loss in lime salts. The disturbance of the circulation, nervous irritation, and the new formative process, causing a dissolving of a portion of the lime salts in the osseous structure of the body, which are taken up and held in solution by the blood. The saliva is acid in reaction, and the gastric phenomena are equally unfavorable to the well being of the teeth, which are greatly jeopardized

*"Prophylactic Treatment of the Diseases of the Dental Organs," by the Author, read before the New York County Homeopathic Medical Society, February, 1893, and published in the North American Journal of Homeopathy, May 1893.

by the local fermentative and acid condition, plus their temporarily weakened structure.

After gestation and nursing, the lime salts are redeposited in the bone and teeth tissue, restoring their former density. Therefore if the teeth are protected during this period from the inroads of caries, they again become strong and resisting, and are preserved unimpaired, or with slight damage, for years of usefulness.

LOCAL CONDITIONS FAVORING DECAY.

Acid conditions of the oral cavity. Extreme thermal changes as in the use of very cold or very hot food or drinks. Irregularity of teeth by affording lodgment for food, and preventing proper cleansing. Flap of tissue lying over wisdom teeth which retains particles of food in contact with them. A glairy and tenacious mucus in the mouth, an expression of super-alkalinity of the blood. Covering the teeth as a film, preventing perfect cleansing of them, and requiring systemic treatment. Local irritation of the margin of the gums causing marked acid conditions of the mucus exuded. Improperly adjusted clasps or other dental appliance. Filling material, placed in cavities, that is not compatible with the structure or quality of the teeth. The use of medicines injurious to tooth structure, etc., are some of the local conditions favoring decay.

SYSTEMIC CONDITIONS PREDISPOSING TO DECAY.

Lack of lime salts in the system, or a lack of physiological ability to appropriate them and build them in properly with the organic matter of the teeth, will produce a weak structure, which will fall a more easy prey to unfavorable local conditions. The constitution of parents, especially the mother.

may have been unable to impart due vigor or proper materials, in requisite quantities, to the process of developing the bone and teeth. "If our young females have hitherto been deprived of the necessary constituents for the full development of the body, can we wonder that a woman should be the delicate and fragile being she so often is, or that by the decay, which assails the teeth in early life, she should be robbed of an ornament of so great value?"

If this condition of things can be changed, if the physical constitution of women can be saved from further degeneracy, we may hope for a more hardy and vigorous race of men; for it is to the healthy and vigorous constitution of woman that we must look for such results. Dr. James E. Garretson lays great stress upon this subject in his work on Oral Surgery. The forces of life are controlled and governed by the sympathetic system of nerves. Deplete or exhaust this system of nerve supply and you have a weakened constitution. Impoverished system, poorly nourished tissues.

Is there a waste of the sympathetic nerve system going on in many individuals undiscovered and unrecognized? Yes, and the source of this waste or the cause of the depletion of this life force in many cases has lately been discovered by E. H. Pratt, M. D. of Chicago, Ill. who claims not the glory thereof for himself but for the God who gave the inspiration. The doctor claims to stand as but the exponent of a thought. The Author wishes here to express his indebtedness for the pleasure and very great profit obtained through and by his meetings and intercourse with Dr. Pratt. The pathological conditions often existing in and about the pelvic region both in the young and the old wholly unsought for and in the large per cent. of cases unrecognized if found, is the cause of not only weakened constitutions but in many cases of nervo and nervo-epleptic conditions.

The first tissues to be nourished is the skin, the bones later and last of all the brain and spinal cord.

It is of the utmost importance that every avenue of waste should be discovered and the fault corrected.

The blood stream carries the pabulum from and by which the tissues are nourished and built. This is brought in contact with the tissues by the capillaries.

To stimulate the flushing of the capillaries is therefore imperative for the health and nutrition of the tissues. Be this accomplished as it may. We see restoration to health through mental influences resulting in the flushing of the capillaries. Certain dilations will produce like flushing of capillaries with like result in a marked degree other conditions being favorable. Remedies also have their place. This is a great subject and can but be touched upon here.

In dyscrasia causing a perversion of the secretion of the mucus glands, acting locally as a cause of decay.

In gestation, nervous prostration, Typhoid conditions, &c., we have a temporary weakening of the tooth structure, requiring more rigid hygienic and prophylactic measures to protect the teeth during these conditions.

USE OF THE TOOTH BRUSH.

The festooning at the margin of the gums over each tooth, which in beauty is to the tooth as is a handsome setting to a gem, is usually ruined by ruthlessly scrubbing the teeth back and forth, irritating the gums and causing them to recede, at the same time the food is forced between the teeth by this character of brushing. The teeth should be rather wiped with the brush in direction from the necks to the cutting edges, or masticating surfaces, on inner and outer faces, allowing the bristles to pass between the teeth carrying out the alimentary particles that may have lodged between them. Never brush toward or against the gum. Brush hard on the masticating surfaces of the molars and bicuspid to clear the sulci or depressions of all food particles which settle in them, as these

are the weakest points of the tooth. These suggestions cannot be too closely followed. Although the Author in his practice impresses the importance of them upon his patients, some are too forgetful of their value.

CHOICE OF A BRUSH.

The brush should be small and not too harsh. A child's brush is preferable to the large unwieldy ones placed on the market for adults. They cannot be used without damaging the gums. Those with long bristles at the end are to be especially avoided for this reason. If a brush is too harsh keep it moist.

FLOSS SILK.

This should be passed between the teeth frequently and at least once a day preferably at night, to relieve them of alimentary particles not reached by the brush and to polish the approximal surfaces, making them in a measure self-cleansing. The waxed silk is preferable.

THE TOOTH PICK.

The wooden tooth-pick is well adapted for the purpose except that it is liable to be broken off between the teeth. For that reason the quill is preferable. Metal toothpicks should not be used. Care should be exercised not to wound or irritate the gums between the teeth as it causes them to recede and form pockets affording additional space for the lodgment of food which is then more difficult to dislodge. Floss silk affords the safest means of freeing the spaces between the teeth.

DENTIFRICE.

An appropriate dentifrice should be used once a day preferably after breakfast, as prior to this meal the teeth do not require its use, a mouth-wash answering every purpose, the teeth having been cleansed the previous night before retiring. The preparations placed upon the market the formulæ of which are not known should be avoided. The practitioner should furnish his patient with a good article or a recipe for the same. The Author refers the reader to the formulæ appended.

MOUTH WASH.

A wash should be used to more thoroughly sweeten and cleanse the mouth. Its properties should be antiseptic, antacid, detergent, and slightly astringent, and should be used in the morning, and after meals. At night a markedly antacid wash should be thoroughly used just before retiring as an adjunct to the brush. It is of great importance and a faithful observance of this injunction will bring its reward in protecting the teeth from the inroads of caries, by neutralizing the acid of fermentation which is active in the mouth during the sleeping hours. A solution of bicarbonate of soda ten grains to the ounce of water, is a good wash for use at night, or the milk of magnesia referred to under "Erosion of Teeth."

EXAMINATION OF TEETH.

The required frequency of examinations depends upon the age of the patient and quality of tooth structure. Examinations at the office of the practitioner are of great importance, permitting of the detection of cavities of decay, while yet small, timely insertions of fillings, or making of application, to check the decay. Preserving the pulp, the dentinal structure and ad-

jacent parts in a condition of health and integrity.

Examinations should be made (as to frequency) as follows:

Between $2\frac{1}{2}$ and 6 years, every 1 to 3 months.

“ 6 and 14 “ “ 3 to 6 “

After the age of 14 years, every six months to a year.

THE GLASS TUBE.

Which is used so largely in taking medicines hurtful to the teeth, is not the protection it is thought to be. The tongue is placed against the roof of the mouth, the center of the tongue is then depressed, which forms a vacuum causing the liquid to flow, through the little trough formed at the tip of the tongue, into the cavity of the vacuum, the center of the tongue is again pressed against the roof of the mouth forcing the liquid into the pharynx, in the act of swallowing; and a proportion of the liquid will ooze out on either side of the tongue and come in contact with the teeth. An alkaline wash should always be used immediately after each dose of iron or acid remedy or drinks.

HYGIENE.

The importance of perfect cleanliness cannot be too strongly emphasized. “The teeth are a trouble from the cradle to the grave,” some one declares. But, it seems ridiculous that, while we never think of grumbling because our hair and our nails need regular attention, we look upon every atom of care devoted to the teeth as something superfluous and burdensome. We understand the social advantages of a pretty mouth, which is largely dependent upon teeth that are faultless in contour and arrangement; and we certainly realize that health and comfort result from a perfect denture. But it is a fact we like to keep in the background of our minds. We owe it to our children, however, even if we have not learned to practice it

for ourselves, to make the care of the teeth a regular habit with them, for the lack of perfect cleanliness is a great factor in their decay. There is no period during the twenty-four hours in which perfect cleanliness is more essential than the hours spent in sleep. The mouth is then quiet and the saliva does not flow; consequently, there is nothing to reduce the acidulated conditions, due to the fermentations of particles of food allowed to remain between the teeth and about the mouth. Think of it! every uncleansed mouth is a distillery for the making of poison, and yet we submit to this going on all night rather than go to the trouble to brush our teeth before going to sleep!

Parents do not realize their great responsibility in this direction and the burden their lack of knowledge and thoughtfulness inflicts upon their children. A baby's mouth should be cleansed for him, and as soon as he is able to understand, the importance of caring for his own teeth should be impressed upon him.

Unless we make our children appreciate the benefits to be derived from a perfect denture, and the evils resulting from a marred and imperfect one, it will be impossible to secure for these important factors of our healthy existence, the care necessary to preserve them. Parents ought not to feel it a tax upon them to make their children's teeth a subject of watchful and intelligent management.

During illness when the teeth are in the most jeopardized condition and the ability of the patient to care for them decreased, a wash should be employed that will meet the conditions and give relief without undue exertion on the part of the patient. To this end the nurse with brush and syringe can accomplish that which might otherwise be tiring to the patient.

If more care were expended in this direction we should not meet the many dental wrecks, dating from the first motherhood or some prolonged illness.

PHYSICAL EXERCISE.

Healthful outdoor exercise and plenty of it is necessary if we wish a strong vigorous constitution for ourselves and our offspring. The forces of life and nutrition are sluggish in those who recline in doors, and who lack proper exercise in the open air. The lime salts are not properly appropriated by the bone tissue. The vital organs do not rightly perform their functions. Therefore, how important is it that we give more attention to our mode of living. In city life the incentive to outdoor exercise is limited. Consequently we should create opportunity in that direction through the various avenues open to us.

Passive outing is of benefit, but in health we require that exercise which brings into active play the muscular system, giving strength and vigor to the tissues, oxygenating the blood and strengthening the lungs through deep inhalations, stimulating the vital organs to physiological action and bringing the health glow to the cheek. As aids to indoor exercise and physical development, the dumb-bells, clubs, boxing-gloves, foils, and other appliances are of importance. Proper and free ventilation of the room is requisite during exercise. Draughts should be avoided and a vigorous after rub-down, is strongly recommended.

When the system has been depleted by illness, muscular exercise by the means of massage is helpful.

For the best physical results regular habits should be maintained and the hours of sleep sufficient to the demands of the individual. A healthy mind as well as strong teeth are concomitants of a healthy body.

FOOD.

The selection of food bears upon the well-being of our teeth through its local and systemic effect. Rich and indigestible food deranges the digestive tract and then we have an interfer-

ence with nutrition. Indigestion and dyspeptic conditions affect the teeth locally, by and through the acid conditions produced.

Aliment having both the calorificent or heat-sustaining principles, the nutrient principles or tissue building, and the inorganic or earthy constituents are necessary. The first is contained in quite sufficient quantity in the usual food—in wheat, potatoes, milk, Indian corn, sugar and in most vegetables. The nutrient principle is contained in animal food—milk, eggs, lean of beast, bird and fish. In wheat, rye, beans, potatoes, &c.

The inorganic constituents, forming the bones and teeth are contained in animal food, milk, eggs and particularly in wheat, oats, potatoes, &c. Fine or bolted flour of which our white bread is made contains two-thirds less of the bone constituents than the unbolted or that made of the whole wheat. The bran, which is removed from the fine flour, contains seventy per cent. (70%) of bone constituents. In selecting food for our children, we should bear in mind that we want bone and muscle, strength and vigor with only so much fat as will give firmness and plumpness. It is then of the greatest importance in the first years of infancy and childhood, when the formative process is going on, that the parent should give faithful attention to the selection of food. In infancy, if the mother's milk cannot be had then pure cow's milk should be substituted instead of the prepared foods: by adding about half as much water and a little cream and sugar the little one will receive a nourishment similar to that derived from the mother; the casein, earth and salts contained therein going to form the tissues of the body, including bone and teeth. The prepared foods largely consisting of the calorificent principle and lacking in the others, may make the child fat and fair yet predisposed to rickets, through lack of the other constituents. The potter cannot fashion the bowl without clay, neither can teeth be formed without earth. A careful study of our diet is as essential to best results in

point of health, as is careful thought to success in any department of life.

THE FUNCTIONS OF MASTICATION.

The importance of the proper maceration of our food is too little appreciated and less often understood. That nature supplied teeth for the purpose of breaking up or grinding our food into minute particles, before it is passed on to the stomach, is accepted without question; then why not properly employ them? The saliva, during prolonged mastication, is thoroughly incorporated with the aliment; this maceration is of great importance. First, in that the saliva contains a ferment—ptyalin—which digests starches. Secondly, the ingesta—food in the stomach—is more easily and thoroughly acted upon by the gastric juice, as it permeates the entire bolus, following the course of the saliva through the mass, whereas, otherwise—*i. e.*, without proper incorporation of the saliva, it would only act on the outer surface of the bolus of food, as the mass would remain packed together, a portion of it possibly undergoing fermentation before it could be acted upon. Soft foods are too often taken into the mouth and passed directly to the stomach without the incorporation of the saliva. Persons with impaired masticating powers should have their food finely cut, and should thoroughly macerate it between the tongue and the roof of the mouth. The teeth require exercise as much as the muscular system; therefore, the crust of bread and other resisting food should constitute a large part of the diet.

PERNICIOUS HABIT OF GUM CHEWING.

The Author regrets to learn that the chewing of gum after meals is recommended by some practitioners as an aid to digestion.

The Author claims this to be a perversion of the act of chewing. It most certainly is in bad taste and is detrimental to the functions of digestion, in detracting the nerve force from the stomach to the muscles of mastication.

The time to chew is at meal-time, and the thing to be chewed is one's food.

Prolonged mastication is of paramount importance. (See chapter on "The Functions of Mastication.")

Weak digestion is greatly aided by a rest of fifteen minutes before and after meals, reclining, and abstaining from reading and conversation.

Distress in the stomach between meals is often relieved by the swallowing of saliva. This is accomplished by a simple movement of the tongue and cheeks in the act of sucking the saliva back and forth in the mouth until there is enough to swallow. This repeated several times is sufficient, and is accomplished in a minute or two.

The properties of saliva are lubricant, demulcent, solvent, digestive, (of starches) and antacid, under normal conditions.

A correct diet, regular habits, proper exercise, or rest, a healthy mind, and a faithful incorporation of the saliva with the aliment is requisite for maintaining or recovering good digestion.

PROPER OCCLUSION OF THE TEETH.

Unless the teeth in one arch properly occlude with the opposing teeth proper mastication is impossible, and means should be employed to remedy the defect (see chapter on correction of irregularity.)

All fillings should be so built as to restore occlusion: otherwise the masticating power is impaired so far as the contouring of the filling fails to restore the said occlusion. *This important fact is too often overlooked.* We understand "occlusion" to mean, the proper contact of the upper with the lower teeth

when the mouth is closed or in the act of mastication. This applies to the molars and bicusped.

THE SIX YEAR MOLAR.

Is too often allowed to decay, the parent thinking that, because it is the first tooth in the place (back of the two temporary molars and appearing between the fifth and sixth year), it will be replaced. This is a fatal error, and the loss of this tooth, after the twelve year molar erupts, causes serious malocclusion, not only in the loss of the tooth but also by the tipping forward of the second permanent (twelve year) molar. If the six year (first permanent) molar has been destroyed by decay, it should be removed before the eleventh year that the twelve year molar when it erupts may occupy its place; but the loss is a serious one and should be avoided.

PRESERVATION OF TEMPORARY TEETH.

The temporary teeth should be preserved, with vital pulps in possible, until the coming of the corresponding permanent teeth. That the child may have perfect masticating powers, freedom from pain, may avoid abscess with its possible serious sequences, and may have the spaces preserved from the encroachment of other teeth adjoining, that the permanent teeth may not be crowded out of their places. The preservation of the teeth influences the expansion of the jaw. When a tooth is extracted the adjoining teeth are liable to take advantage of the space thus created and occupy a portion of it, and in this way cause the crowding referred to. It is, however, equally important that the temporary teeth should not remain beyond the time of the eruption of the corresponding permanent teeth. If, at this time, they have not been exfoliated they should be removed; otherwise the permanent teeth will erupt inside or

outside of the arch, causing deformity. The roots of the temporary teeth, in normal conditions, are absorbed or dissolved through the irritation produced by the development and approach of the corresponding permanent teeth, and the lime salts are again returned to the blood.

FACE ACHE—CAUSE.

Face-ache, so-called, may find a cause in an irritated pulp,* exposed or nearly so. Infiltration of sweets and acids, thermal changes and pressure acting as irritants. Sensitive dentine, especially at the necks of teeth which have been denuded of the gum, the result of an improper use of the brush, or of the irritation caused by allowing tartar to remain in contact with the gum, may prove a cause. Pyorrhoea Alveolaris, or the inflammation of the periosteum of the root, known as periostitis, may be the pathological condition. In periostitis the tooth feels longer than the others and sore on tapping, and if due to devitalized pulp may result in abscess if not given prompt attention. A cause may be found in pulp stones, exostosis,† erupting of wisdom tooth, reflex pains, etc.

When pain is the result of pulp irritation, dependent on caries, and a practitioner is not within reach, relief may be had by the use of a medicated pellet of cotton, placed in the cavity. But before using the cotton it is necessary, for the obtaining of the desired results, to free the cavity of the debris that the medicament may come in contact with the dentine, or pulp, if it be exposed. The cavity should be syringed out with warm water of an alkaline reaction, that it may neutralize the acid condition of the cavity, concomitant with decomposition, and relieve the pulp of this source of irritation. The cavity is then

*Odontalgia. Emergency Treatment (a criticism) By the Author, Medical Record, November 25th, 1893.

†Periosteal Induction of the Maxilla Resulting from Exostosis of Tooth Roots, By the Author, Medical Record, March 30th, 1895.

dried. Then moisten a very small pellet of cotton in some obtundent, place it into the cavity and gently press it with a dry pellet of cotton to take up the excess of medicament. Too much pressure should not be exerted in placing the cotton when the pulp is exposed, or when the dentine over the same is very thin and easily depressed. A retaining pellet should also be used, dipped in a solution of gumsandrac and alcohol.

The following is a good medicament:

R

Olei Caryophylli,	-	-	-	5i
Olei Cajuputi,	-	-	-	3i
Pulveri Opii,	-	-	-	$\frac{1}{2}$ ʒ
Camphoræ,	-	-	-	$\frac{1}{2}$ ʒ
Spiritus Rectificati,	-	qs.	M. ft.	solutes.

ALVEOLAR ABSCESS (SWOLLEN FACE.)

This condition should have attention at once, even before pus has formed, when the premonitory symptoms of pain and soreness upon pressure on tooth first make their appearance. Immediate relief may be obtained at any stage of the trouble. If devitalized and putrescent pulp is the cause, as is usually the case, the mere venting of the canal to allow of the escape of gas and pus, if any has formed, external to the apical foramen, will give the desired result. No pain whatever accompanies this operation. Other conditions require other means. Abscess over superior six and twelve year molar teeth is liable to cause serious involvement of the antrum. And necrosis of bone may result as the sequela of abscess, especially in the lower jaw, caries resulting more frequently in the upper jaw.

A poultice should never be placed on the outside of the face, as it will tend to make the abscess point and break externally, resulting in a permanent scar upon the face. Should the abs-

cess point externally it must be prevented from continuing its course in that direction by the application of cold compresses or ice bag externally, and hot and stimulating applications internally. The bistoury plays a very important part in these cases. The applications used upon the gum are the capsicum pad, dental tincture of aconite and iodine, figs, raisins, hot water and soda, etc. Teeth producing these conditions, if amenable to treatment, may be preserved and do good service for many years, even if the crowns are entirely gone. Porcelain crowns may be adjusted to the roots; they may be built down with metal or act as supports for bridges.

SALIVARY CALCULUS (TARTAR.)

Is a deposit which collects about the necks of the teeth. It is composed of the phosphate and carbonate of lime, mucous and accidental matter. The lime salts are in solution in the saliva which flows from the many ducts leading from the various glands. Two of these ducts open opposite the upper molars, one on each side. Twenty of them open on the floor of the mouth under the tongue at the fraenum. The deposit should be removed as frequently as necessity requires. The teeth should be kept entirely free from it. The failure to have tartar properly removed, especially that hidden under the margin of the gum is productive in many cases of serious results. Acting as an irritant it causes the loosening of the gums from about the necks of the teeth, the absorption of the alveolus, death of the periosteum, formation of pus, loosening and finally exfoliation of the teeth. In some cases pain accompanies this condition simulating facial neuralgia.*

*Pyorrhoea Alveolaris Often Diagnosed as Facial Neuralgia. By the Author, published in the Medical Record, February 13th, 1892.

PYORRHOEA ALVEOLARIS.

This is a disease about the roots of the teeth, referred to under "Salivary Calculus," caused also by other irritants and systemic influences. This condition is too often overlooked in its incipency and the disease progresses without the application of any remedial effort. There are very many sufferers who never know the cause of the loosening and loss of their teeth or that they might have been saved.

RECESSION OF THE GUMS.

This is an unfortunate condition, marring the beauty that is characteristic of a perfect and healthy gum tissue. Responsibility lies with the improper use of the tooth brush or the permitting of tartar to remain about the teeth in contact with the gum or concealed beneath its margin. The progress of recession is slow and the sufferer is unaware of the damage being sustained by and through a lack of knowledge or care, until it is sufficient in extent to attract attention. The damage done is irreparable. Operations have been attempted, but the original beauty cannot be restored.

SENSITIVE DENTINE.

Under this head the author will consider only the sensibility often found at the necks of teeth where there is no cavity of decay. One or more teeth may be involved in a mild or to an exalted degree. Aggravation being occasioned by cold, sweets, sours or contact, such as touching with an instrument, or the finger-nail. The patient often attributes the pain to a fancied cavity of decay, the tooth being perfectly free from caries. In some cases there is a diagnosis of neuralgia and treatment directed accordingly. This condition of sensibility is due part-

ly to a recession of the gum tissue from about the neck of the tooth, also a hyperacidity of the system, fluids of the mouth or mucous glands, creating an inflammation or Hypersensitive condition of the structure. Remedy lies largely in correcting the hyperacidity. Local treatment may also be employed, this at the hands of the practitioner.

EROSION OF THE TEETH.

This is one of the most remarkable affections to which the teeth are liable. Its causation or pathology, as it is observed on the labial surfaces of the anterior teeth, has been the subject of much speculation, experimentation and theorizing. An abnormal secretion of an acid reaction discharged from some of the labial glands is accepted as a cause, in that in cases of erosion we find an enlargement of the orifices of a number of these glands and a redness and vascularity of the tissues surrounding them. Upon pressure they can be made to exude a thin watery fluid distinctly acid in reaction. There is thought to be little or no action upon the tooth structure during the day, owing to the diluent and neutralizing properties of the saliva, its neutralizing powers lying in its alkalies, but that at night the decalcifying or disintegrating process is active upon the enamel as the saliva does not flow during sleep. When decalcification has resulted the tooth substance yields easily to the mechanical action of the tooth brush. A condition of the nutrition without doubt is a factor predisposing to labial secretions which produce the erosion. The problem which presents, however, is a difficult one, and viewed in the light of our present knowledge upon the subject, it is evident that investigation must be pushed much further to satisfactorily determine the agencies which are at work in the perverting of this labial secretion, and the full part it plays in decalcification. The lips hold the secretions in contact with the teeth at night, and polish them

during the day. Constitutional or surgical remedies, if applied, are adapted to the individual case. The fact that a gouty diathesis seems to accompany many cases should be borne in mind. The injurious action of acid secretions, especially in cases of erosion, may be counteracted locally by the use of a preparation known as "Phillips' Milk of Magnesia," which consists of precipitated magnesium hydrate held in suspension in water. It is to be applied in the same way that lime water or precipitated chalk is used for the purpose of bringing about the alkaline condition of the oral fluids which neutralize all acids present. A teaspoonful of the preparation taken into the mouth and allowed to float around over the teeth coats them with a slight film of alkaline magnesium hydrate, which is sufficiently adherent to protect the tooth surfaces from the acid action for a number of hours. It should be used every night before retiring, and once or twice a day when necessary.

GREEN STAIN.

Children are especially liable to a mucous deposit in the form of a brown or green stain. This has been erroneously*called green tartar. It is generally found upon the labial surfaces of the front teeth, more frequently upon those of the upper arch and is considered to be a deposit from the mucous when this secretion is in a more acid condition than is natural. Its effect upon the teeth is most disastrous when allowed to remain. The enamel becomes eroded and the tooth rapidly disintegrates. The fungi should be removed as soon as discovered.

CORRECTION OF IRREGULARITY.

The correction of irregularities under favoring conditions may be begun and carried to a successful termination through a wide range of years. The most favorable period, however, being between the thirteenth and eighteenth years. As the

operation is one largely dependent upon the absorption and reformation of bone, and as the density of the bone increases with advancing age, so the correcting process becomes relatively slow and tedious as the density increases. Earlier than the thirteenth year the operation is advisable under certain circumstances, and later than the eighteenth, the difficulties increase with the years. Correction may be undertaken as early as the eighth year, and again successful results may be obtained as late as the thirty-fifth year or later. In cases where a number of teeth are involved, requiring an extensive operation, it should not be undertaken until all of the permanent teeth (except the wisdom) are erupted and the arch fully expanded, when, on examination, it will often be found that the irregularity has much improved and the necessity for interference is proportionately lessened. The advisability of early or late interference will depend upon the conditions, and early advice should be obtained from a competent source. The methods and appliances are varied, and there is much to be said of their advantages and disadvantages. Great improvements have been made in this direction, but the operation of correction in the majority of cases is a difficult one, calling for great skill and much labor. The health of the patient is of first importance in a case of projected treatment for irregularity. Constitutional changes, depression of the vital forces, as in debility, schlorosis, nervous prostration, etc., would contraindicate in proportion to the conditions presenting, as the wearing of appliances are irritating to the nervous system and a tax upon the general health.

The time most favorable for the correcting of irregularities (thirteenth to eighteenth year of age) because the teeth are fully erupted, is that period fraught with important changes in the entire economy, marking the passage from childhood into manhood or womanhood, when the life forces, especially in the case if the female, are taxed to the utmost, the mental faculties often overstrained by study, the physical culture of

the individual neglected; and we have an exaltation of the nervous system to a marked degree. Therefore at this period of life should the vitality of the patient be below the average, no difficult operation should be undertaken, as the impairment to health might be serious or permanent. To overcome in some measure the effects of the drain upon the system at this period, full nutrition should be sustained, which is impossible if the teeth have been made sore and tender to the touch in the operation of moving them. In cases where the vital powers cannot well stand the strain of an operation it is wisdom to postpone it or abandon it altogether, for the loss of health can never be compensated for by the benefit derived from such an operation.

FACIAL ORTHOPEDIA.

Is the correction of deformities or unpleasant expression of the face, to a graceful contour of the features, by means of surgical or mechanical interference. The results obtained in this direction have been truly marvelous. The course of a few months' treatment in some cases producing almost a new face. In the movement of the anterior teeth force is produced in such a manner, by a specially devised appliance, that they are carried backward or forward in a body, being maintained in a vertical position, to all appearances carrying the bone with them. Example—In a case of protruding upper lip and retrousse nose, after wearing the appliance a few months, which is small and conveniently worn, the upper lip lost its protruding appearance, and the nose was no longer retrousse. The face that was once unpleasing had been made really pretty. Facial orthopedia applied as described herein is quite new. The Author is greatly indebted to a Chicago brother practitioner, the promoter of this class of operation, for instructions in the making and adjusting of the appliance referred to, and his method of procedure, and to whom the name "Facial Orthopedia" owes its origin.

GOLD CROWNS.

The habit of placing gold caps or crowns in the mouth is carried to the point of abuse in many instances. Nature never meant that there should be a gold band about the neck of the tooth beneath the gum margin, and no matter how close the adaptation may be, the exudation of the tissues or the fluids of the mouth will dissolve out a portion of the cement and creep between the band and neck of tooth by capillary attraction. A very large percentage of the teeth so capped could have been restored to usefulness by other methods far more in keeping with physiological and hygienic principles. In restoring the dental organ we must look beyond the law of mechanics, holding that as secondary and in subservience to the physiological. Gold crowns placed in the front of the mouth are exceedingly unsightly, in that the harmony in color of the natural teeth is rudely broken in upon and the beauty of the whole destroyed.

EXTRACTION OF TEETH.

The day has passed when the reputable practitioner extracted every broken-down and diseased tooth as the only alternative. Through the skill that has resulted from the patient efforts of the experimenters and deep thinkers in the profession, these most needed organs of mastication, though broken down and to all appearances beyond repair, are restored to usefulness and durability, performing their functions as though no harm had ever befallen them, though the conditions are largely changed. Though the pulp of a tooth may have been lost through devitalization consequent upon exposure or irritation through the inroads of caries, or by other means, if the conditions within the canal are, or have been made such as to prevent any irritation to the tissues external to the apical foramen, the tissues will tolerate the tooth. The periosteum surrounding the root remaining vital and performing its functions the

same as though the pulp (nerve) had never been disturbed. However, as in all new departures, some are apt to go to the extreme and save teeth which are injurious to the health of the possessor and should be extracted. A careful differentiation between those which may, and may not be retained, should be exercised.

ARTIFICIAL TEETH.

In the hands of a skilled operator who keeps abreast of the times, a patient may have the lost natural organs replaced by artificial ones, so perfect in adjustment and appearance that the substitution in many cases is not appreciable even to the wearer. The porcelain crowns placed upon natural roots, both plain and gold backed, including that with band, bridges for the support of a single artificial tooth, or for an entire arch, both permanent and removable, are the most perfect substitutes for the natural, except the implanted tooth, the operation for which it is not frequent. The majority of cases proving ultimate failures, to say nothing of the attending dangers.

The Author has seen failures in bridge work and as many bungling operations, but when conditions are favorable and the operation properly performed, it has been proven to be the best method extant.

Artificial plates supporting teeth still have their place and are used where other methods cannot be employed. Each style of plate has its advantages and disadvantages, only those in general use will be considered here.

At the head of the list we have that known as continuous gum made of porcelain mounted upon a platinum base, in which a perfect representation of the tissue and the teeth are secured. In addition to its naturalness in appearance, it is the most hygienic in that it does not absorb the fluids of the mouth, and there are no crevices to collect the same. The disadvant-

age for the upper set is its weight, which, however, is an advantage for the lower set.

Next in order is the gold plate. It is light in weight, good thermal conductor, does not absorb the fluids of the mouth, but more or less crevices between the teeth at point of union with the plate afford lodgment for a small amount of the fluids which is beyond reach of cleansing except the plate be invested and heated to a point which burns out the secretions, and then dropped into acid. Where rubber attachments are used this is obviated.

The rubber plate which is used more largely than any other is light in weight, but is porous and absorbs the fluids of the mouth to some extent, and is non-conductile of the thermal changes; this last property causing a paralysis of the sensory nerves of the tissue covered by the plate so that in cases where the tissues degenerate as they do in some instances under the influence of the rubber, the patient is wholly ignorant of the fact, there being no sense of pain or soreness. The Author has seen some cases where the tissues had become a spongy mass, blood oozing out on slightest pressure. He has made a cure in all these cases, but one is reported in which the tissues had become so greatly degenerated that the conditions could not be relieved and were of so aggravated a character as to prevent the wearing of a plate. Rubber plates may be lined with gold leaf prepared for the purpose. Other plates such as aluminum, celluloid, etc., have their advantages and disadvantages. Artificial work should be kept perfectly cleansed. It is better that plates be not worn at night that the tissues may have a rest. The denture may be placed in an antiseptic solution over night.

ELECTRICITY IN DENTAL SCIENCE.

The equipments of the Author's office afford opportunity for the appreciation of the great aid rendered by and through the

improved electrical appliances. In motor power, illumination of cavities and tissues, in therapeutical use and in production of anæsthesia. It is a fact well and long known that electrolysis favors the absorption of remedies by the skin and membranes, and when used upon the tissues within the mouth, in combination with remedies for the production of local anæsthesia in extracting and operating upon the teeth, the success is dependent upon the properties of the remedy or remedies used. Remedies favoring pathological conditions as a result of their employment are as harmful when applied by this method as by any other. The many pathological conditions reported as the result of the local use of remedies for the production of anæsthesia, to say nothing of the death of patients, demonstrates the importance of the exercise of intelligent judgment and competency on the part of the practitioner. The Author quotes from the Dental Digest of March, 1895: "The author of 'Legal Restriction of Nostrums' commends the movement for the Legislative prohibition of the use of nostrums in extracting or filling teeth. He says that since so many deaths have been and are almost daily reported from the use of cocaine preparations, it shows that if there is such a narrow margin of safety in the use of cocaine in accurately known doses, the use of a nostrum containing cocaine in an unknown quantity is almost criminal. Also, that the plea that the ethical dentist does not use nostrums, does not relieve legitimate practitioners from obligations to see to it that unprofessional men do not use them, since their use is a disgrace to the whole dental profession."

MEDICINE IN DENTISTRY.

The day will undoubtedly come when every dentist will be required by law to have the degree of "M. D." as well as that of D. D. S., or M. D. S., the last two degrees meaning the same thing, *i. e.*, that the one on whom they were conferred

had passed a successful examination in Dentistry. The degree of D. D. S. being conferred by the College and that of M. D. S. being conferred by the New York State Censors. The examinations are similar in both cases, therefore the employment of these two degrees is a mere repetition. As the teeth are so intimately connected with, and are a part of, the whole economy, the knowledge of medicine is not only an advantage in the specialty of Dentistry, but will doubtless become a requisite to eligibility to practice. A like knowledge of Dentistry, should be imposed upon the physician.* How often is an aching tooth, especially in pregnancy, extracted, when the pain does not call for surgical interference, being caused as in many cases, by systemic conditions; which conditions may be so modified, or changed, by the use of the indicated remedy as to relieve the pain which was but the expression of the general condition, the derangement of the digestive tract, or of some organ. If one has a rheumatic or neuralgic pain in the arm, the amputation of the said member would not suggest itself as a means of relief, but intelligent medication would be resorted to. Internal medication is also essential to correct the constitutional conditions responsible for the perversion of the secretions of the mucous glands of the mouth, resulting in the destruction of the teeth, making dental operations almost useless in such mouths as the teeth would continue to break down. The author has produced marked changes in mouths where decay had been rapid, by and through systemic treatment. A broad education is essential for best results in every department of human effort, and nowhere so important as in that which has to do with the well-being of our bodies.

*The Common Ground Between Dentistry and Medicine, or Why One Should Not Be Independent of the Other, by the Author. Written for the Kansas State Medical Society.

FIRST DENTITION.

As it would be beyond the scope of this book to treat of the Embryology and development of the dental organ, the author will not go further back in its history than the time of eruption. The deciduous or temporary teeth are twenty in number. The first to make their appearance are the lower central incisions, penetrating the gum at about the fifth to the seventh month. The next are the upper central incisions, erupting at about the sixth to the ninth month. The lower lateral incisions, erupting on either side of the centrals, at the seventh to ninth month. The upper laterals at the seventh to eleventh month. The first molars at the eleventh to seventeenth month. The cuspids (stomach and eye teeth) at the thirteenth to the twentieth month. Second molars at the twentieth to thirtieth month. With the eruption of the second molars, the first dentition is completed. There are exceptions to this rule. Some infants have a few teeth erupted at birth, and occasionally adults are edentulous (toothless) from birth.

PATHOLOGICAL DENTITION.

As the derangements of the alimentary canal and cerebro-spinal system could not properly be considered in this work the author will confine himself to the local signs and symptoms. A few of the symptoms of pathological dentition are; tossing restlessness, fretfulness, feverish thirst, painful paroxysms, exhaustion, congestion of brain, convulsions and emaciation. Death may result in severe cases. The usual local signs are, redness and swelling, followed by whiteness of the gums; decided flow of saliva ("drooling") desire to suck thumb or fingers; biting the ring or spoon with determination; alternately taking and refusing the breast, desired upright position (to relieve blood pressure in gums). There are exceptions, when some or all of these signs are absent.

The first local remedy for pathological dentition is lancing, which should be done with a narrow bladed, curved bistoury wrapped with muslin, leaving exposed a quarter of an inch of the point, this of course should be done by a practitioner. Lancing, for the lower incisions, parallel with and inside the cutting edge of the teeth and for the upper incisions outside the cutting edge of the teeth that the upper teeth may occlude outside of the lower teeth. The molars are to be lanced crucially, with the X-incision liberating the four cusps. This applies to the first and second lower molars and the upper second molar. The first upper molar is to be lanced with the (+) incision liberating the cusps. Occasionally it is advisable to remove a block of gum in severe cases. Cuspid's should be lanced similar to incisions at first. The immediate dangers from lancing are, injuring the enamel, cutting the cheek, tongue or lips. The subsequent danger is from hemorrhage, which may be swallowed and thus remain unnoticed. To control hemorrhage give breast or ring; apply local remedies in the shape of styptics and the administration internally of mild Hemostatics. Patient should be placed in erect position and hot water applied to feet. Lancing of the gums has been opposed by some physicians on the ground that cicatricial tissue, forming after the operation, is more dense and consequently more resisting to the erupting tooth and that internal remedies should be given only. Internal medication most certainly is of benefit, but the Author has seen such marked and immediate relief from lancing, where internal medication has failed, that he feels the little sufferer should have the relief it affords. Of course there is a proper time to lance the gums and there are conditions when it would be harmful; judgment must be exercised.

INFANTILE SCORBUTUS.

As the condition of the gums in this disease is often looked upon as a purely local trouble, the Author deems it important to treat of it in this work. The gums become swollen and spongy in appearance, sometimes completely covering the teeth of the child. The color may be of dark venous blood and bleed easily. The little one may be unable to stand, may complain of pain in the limbs or will cry when they are touched, being tender, sore and swollen. There may be streaks and spots that look like bruises. These are the principal manifestations that are but the local expression of a systemic condition requiring prompt action. The cause lies in improper feeding and is found mostly in children fed on the prepared foods.—See Chapter on Food. Remedy lies in change of diet, with the employment of remedies if indicated. A mouth wash should be employed. The food should be of fresh cow's milk prepared in accordance with the age of the child, a few drops of Bovinine added at each feeding, or the juice expressed from beef, and the juice of an orange twice a day, teaspoonful or two at a time. An immediate change for the better will be noted and recovery speedy.

REFLEX PAINS.

Observations establish the fact that dental irritation may give rise to neuralgia in many nerves, and more particularly in the branches of the trigeminal or tri facial nerve itself. This is the largest of all the cranial nerves, branches of which supply the teeth. Through its wide distribution within the face and over the head, its close relation to other nerves and to the plexuses and ganglia of the sympathetic nerve, it becomes involved in nearly all the diseases of the external portion of the head as well as the superficial and deep parts of the face, and occasionally with distant organs of the body. By reflex pain we mean pain in a portion of the body that is not in reality the

seat of the pathological condition. A most interesting phenomena, which the author however will not attempt to explain here. Pathological conditions of the eye, nose, uterine affections especially, and more frequently disorders of the alimentary canal may give rise to pain in and about one or more of the teeth, with no pain at the seat of the disorder and again a carious or diseased tooth may appear to be wholly inoffensive, but be the cause of pain in the ear, eye, face, adjoining teeth or some distant organ. Hysteria frequently gives rise to, or is associated with odontalgia (toothache) many cases are cited. Malaria is productive of odontalgia, and epilepsy, chorea, hysteria and headache have been caused by pathological conditions in or about the teeth. Many of these cases are very obscure, requiring careful examination and much thought and research in their solution.

In some cases it is an impacted tooth which has never erupted or other hidden cause to be sought for. In others the cause can only be determined on post-mortem, as in lesions within the cranium, giving no other evidence but the reflex conditions.

NITROUS OXIDE GAS IN DENTAL SURGERY.

N₂O (laughing gas) is the safest anæsthetic producing general anæsthesia.* In the constant administration of gas in the Author's practice, he has never had an accident and the records show that when properly administered there is absolutely no danger. N₂O was discovered by Priestly in 1776; first came into notice as an anæsthetic in 1863; first used in dentistry by Horace Wells of Hartford in 1845. Theoretical constitution is N₂O—univalent nitrogen with bivalent oxygen—two atoms of nitrogen with one of oxygen, made by cautiously heating ammonium nitrate which is decomposed, yielding laughing gas

*"Nitrous Oxide Gas in Prolonged Operations" by the Author, Medical Record, May 11th, 1895.

and water. The application of too great a heat produces a very poisonous gas. All injurious products are guarded against in the manufacture. When inhaled it causes exhilaration, anæsthesia and asphyxia. The sensation is usually one of agreeable intoxication with no disagreeable after-effects. Sir Humphrey Davy in 1800 called attention to its anæsthetic properties. In 1844 Dr. Horace Wells of Hartford, Ct., was present at an exhibition of the exhilarating effects produced by the gas upon those who inhaled it for the amusement of the audience. One young man while dancing around under the exhilarating influence of the gas struck his leg against the corner of a bench; after the effects of the gas had passed away, he sat down and then for the first time felt a pain in the injured leg. Upon examination the wound proved to be severe. Dr. Wells asked if he had not felt the blow. Upon receiving a negative reply the doctor remarked that if so severe a wound could be inflicted without the knowledge of it, a tooth could doubtlessly be extracted without pain, and to satisfy himself of the truth of his convictions, he had a brother practitioner extract a tooth for him at his office the following day under gas, and upon regaining consciousness declared that it was the greatest thing of the age and said: "I did not feel it so much as the prick of a pin." This was two years before the discovery of the anæsthetic properties of ether by Morton & Jackson at Boston, and three years before that of chloroform by Sir J. Y. Simpson, of Edinburgh. Wells endeavored vainly to have the profession see or realize what a blessing the gas would be to those undergoing painful operations; but like so many other benefactors of mankind he was looked upon as a crank and could make little or no impression. Finally, discouraged and bankrupt, he passed out of this life; and it was not until 1863 that the gas was again brought forward and has been used since that time. A statue of Horace Wells has lately been erected in Hartford as a recognition of the honor due him as the discoverer of the anæsthetic properties of nitrous oxide gas.

A FEW INDICATIONS FOR THE EMPLOYMENT OF
SOME OF THE HOMŒOPATHIC REMEDIES
UNTIL PROFESSIONAL SERVICES
CAN BE OBTAINED.

Calcarea Phosphorica is indicated in dentition when there is slow development and rapid decay of teeth, dental troubles in flabby, emaciated children who have open posterior fowlanelles, and are slow in learning to walk.

Coffea indicated in severe pain, stinging, jerking pain; teeth feel as if something was wedged between them. Pain relieved by holding cold water in the mouth. Patients frantic with pain, don't know what to do.

Aconitum, *Veratrum*, *Sulphur* and *Hyascyanus* have similar symptoms and can be given when *coffea* fails.

Belladonna, indicated when tooth and gums are sore to pressure, worse when lying down. Boring in tooth as from congestion of blood. Dryness of throat or mouth, or ptyalism, indicated more in upper front teeth, right side. Particularly indicated when pain causes great restlessness, running about or depression of spirits.

CHAMOMILLA is beneficial in many kinds of toothache especially in children. Also in persons who are frequently vexed, and who drink coffee; toothache of females before menstruation. When patient is irritable and inclined to cry, pain in decayed teeth after taking cold when in a perspiration, worse during night, is worse periodically and unbearable, cannot locate the tooth. Decayed tooth feels long and is loose (if only appears loose without being so, then give *Bryonia*). When the glands under the chin are painful and swollen. If the pain is accompanied with great weakness, particularly in the joints, &c. If *chamomilla* gives but incomplete relief, compare *Antimonium Crudum* and *Mercurius*.

NUX MOSCHATA is excellent for children, and women during pregnancy, and people with cool dry skin, who do not easily perspire. Pains, the result of taking cold in cold damp weather or night air, when warm applications ease the pains, which are worse in the air and in cold damp air if drawn into the mouth. Pain may commence on right side and go to the left; as if tooth were being wrenched out (*Nux Vom.* *Ipecacuanha*). Worse by motion in going up or down stairs.

NUX VOMICA for persons of ruddy complexion, hasty temper, who indulge in spirits and coffee, who have taken cold or have little out-door exercise. Pain digging, jerking or rheumatic tearing or as if wrenched out (*arnica* and *mercurius*), when healthy tooth pains and feels loose, or seems too long.

PULSATILLA is most suited to persons of quiet, timid, mild dispositions. Want to lean up against something or somebody, cry easily, pain only on one side, with earache and headache, stinging pain in decayed tooth, painfulness of left side of face extending to the ear with heat and chills over whole body. Throbbing, jerking or pricking pain, pain aggravated by cold water, warmth of room, or heat of bed, relieved by drawing cold air into the mouth or in the open air, but returns in the warm room. Worse when sitting; better when walking about worse toward evening.

IGNATIA is indicated where patient grieves much, having symptoms of the foregoing remedies. Tender, sensitive, sad disposition. Teeth feel as if crushed; worse after smoking or drinking coffee, after dinner, in the evening, after lying down, and in the morning.

HYOSCYAMUS, when pain almost drives patient mad. Sensitive, nervous, excitable persons; tooth feels as if coming out, is loose. Buzzing pain. Throbbing, which extends to forehead, flushes of heat, with flow of blood to the head. Comes on in morning. Pain caused by cold air.

MERCURIUS.—Pain affects whole side of face, drawing and stinging pains extend to ear, or sensation of tooth being

wrenched out. Mercurius is frequently suitable for children, and in general for toothache in decayed teeth. Teeth are almost always loose. The gums swell and become white and ulcerated; face and upper lip may be so swollen that recognition is difficult.

HEPAR is beneficial after Belladonna and Mercurius, when the swelling of the gums continue. Pain worse at night after eating, and in warm room. There may be throbbing pain as if blood is being forced into the tooth.

CARBO VEG. is useful sometimes when mercurius or arsenicum give some relief. For persons who have taken calomel to excess, especially when the gums are separated from the teeth and bleed. Teeth ache when touched by the tongue, loose and ulcerated teeth.

BRVONIA for hot-headed, obstinate, irritable and passionate people. Pain is usually in healthy teeth; occasionally in decayed ones. Pain aggravated by smoking or introducing anything warm into the mouth. Better in the open air. Decayed teeth are worse in contact with air. Teeth feel too long and loose. Better when lying on affected cheek, but worse when lying on the other.

STAPHISAGRIA is indicated when the teeth become black and decayed and scale off, the gums white, ulcerated, swollen and throbbing, painful on touch, and covered with ulcers and blisters. Pain worse in open air and from cold drinks, aggravation during night and toward morning.

PHOSPHORIC ACID for swollen and bleeding gums, burning in front teeth during the night. Decayed teeth causing pain. Sensation as if they would be forced out, worse in bed when warm.

LACHESIS.—The gums are bluish-red or swollen and bleed easily, and pain extends down into the throat; headache over eyes. Decayed teeth are painful. Congestion of blood to the head. Throbbing, jumping, boring into the jaw bones, decayed teeth too long. Chill fever and thirst. For melancholic or choleric persons.

CALCAREA.—Indicated in pains in decayed teeth and around loose stumps. For toothache in pregnant women, when gums are sensitive and swollen. Continuous pain in loose teeth caused by taking cold, cold air and noise aggravates. Neither warm or cold drinks are tolerated.

SILICEA.—For fistulous openings on the gum discharging offensive matter. For weak and intollerant tissue. Pain in the bones of the face spreads over the whole cheek, boring, tearing pain.

ARNICA.—Is indicated for the stopping of hemorrhage after extraction of teeth and it favors rapid healing of the gum. Five drops of the tincture should be mixed with a half tumbler of cold water and used as a mouth wash after extraction or other dental operations or when a new plate causes pain and swelling of the soft parts.

FOR FLOW OF SALIVA, Trif; If very offensive, merc., sickening, colch., ipec., Iris V.; When sleeping if wet pillow, merc., with yellow saliva, nit. ac.

For bloody saliva, merc., nit. ac., nux v.; If frothy, "like cotton" coc., nux m., pul., or if ropy, hyd., kali bic.

FOR FOUL BREATH, kali phos., kre., merc.; as from spoiled eggs, arn.; or old cheese, aur.; musty, alu., kali bich., led.; urinous, graph.

Ulcers in the mouth, hyd., kali bich., merc., prot. gangrenous, ars., lach., sec.; From mercury, kali iod., nit. ac., phyt.

Nausea and vomiting of pregnancy; if in morning, aster, 24 evening, kre.; Any time, Ipec. IX, drop dose. Pepo tinct. five drops before meals. Chloroform one drop in hot water. Lie down with hips higher than head.

ICHTHYOL.—For local pain. Local redness, inflammation, neuralgia, abscess, boil, bruise, burn, scald, ulcer, tumor: apply Ichthyol pure, or fifty per cent. ointment; or for moderate strength, Ichthyol, one part, water four parts and Lanoline five parts, mix and apply.

Internally take two gr. pills several times a day for any pain from any cause.

Bismuth Sub. Nit.—Dust on affected part. For sore mouths, ulcers, &c.

For apthæ and ulcers.

R

Glycerine,	-	-	5 i.
Acidi Carbolici,	-	-	3 i.
Sodæ Sulphitis,	-	-	5 i.
Aqua,	-	-	5 x M.

Sig.—Use as mouth wash or by means of an atomizer.

For soreness or tenderness about root on pressing tooth.

R

Tr. Capsicum,	-	-	-	1 part.
Vin Opii,	-	-	-	2 parts M.

Sig.—Apply to gum on cotton, felt or blotting paper of size sufficient to cover the affected part. The cheek may be protected by a small piece of oiled silk, waxed paper or thin rubber; which may be stitched to the blotting paper or cotton.

ACONITE AND IODINE.

R

Iodine Tinct. officinal,	-	2 parts.
Aconite “ “	-	1 part M.

Sig.—Dry the gum and then paint it with a small amount on very small piece of cotton wound on the end of a match or small stick. Hold the cheek away until it dries. The tincture used in dentistry is stronger than the officinal.

DENTIFRICE FORMULAE.

℞

Chalk precipitated (not prepared)	-	-	-	-	-	℥ xlv.
Orris pulv.	-	-	-	-	-	℥ viii.
Sapo cast	-	-	-	-	-	℥ xii.
Ossepia	-	-	-	-	-	℥ ii.
Saccharin	-	-	-	-	-	℥ i.
Carmine No. XL (optional)	-	-	-	-	-	℥ ss.
Oleum Rosa	-	-	-	-	-	Gtt L
Gessamine Ess.	-	-	-	-	-	℥ ss.

M. and pass powder through a No. 40 sieve and then through a No. 80 sieve.

Sig.—Use on the brush in cleansing and polishing the teeth.

℞

Chalk precip.	-	-	-	-	℥ XX
Orris pulv.	-	-	-	-	℥ ii.
Saccharin	-	-	-	-	Gr XV
Sapo cast	-	-	-	-	℥ iii.
Oil Wintergreen,	-	-	-	-	Gtt XXX

M. and pass through sieve No. 40 and then through a No. 80 sieve.

Sig.—Used on brush, &c.

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